PROP. III. THEOR. I.

Si pro abſciſſa AB & area AE ſeu AB×1 promiſcue ſcribatur z, & ſi pro $e + fz^n + gz^{2n} + hz^{3n} +$ &c. ſcribatur R: ſit autem area Curvæ $z^\theta R^\lambda$ erit ordinatim applicata BC =

$$\theta e \begin{smallmatrix}+\theta\\+\lambda n\end{smallmatrix} fz^n \begin{smallmatrix}+\theta\\+2\lambda n\end{smallmatrix} gz^{2n} \begin{smallmatrix}+\theta\\+3\lambda n\end{smallmatrix} hz^{3n} + \&c. \text{ in } z^{\theta-1} R^{\lambda-1}.$$

Demonſtratio.

Nam ſi ſit $z^\theta R^\lambda = v$, erit per Prop. 1, $\theta z z^{\theta-1} R^\lambda + \lambda z^\theta \dot{R} R^{\lambda-1} = \dot{v}$. Pro R^λ in primo æquationis termino & z^θ in ſecundo ſcribe $RR^{\lambda-1}$ & $zz^{\theta-1}$, & fiet $\theta z\dot{R} + \lambda z\dot{R}$ in $z^{\theta-1} R^{\lambda}_{-1} = \dot{v}$. Erat autem $R = e + fz^n + gz^{2n} + hz^{3n}$ &c. & inde per Prop. 1. fit $\dot{R} = nfzz^{n-1} + 2ngzz^{2n-1} + 3nhzz^{3n-1} +$ &c. quibus ſubſtitutis & ſcripta BE ſeu 1 pro z, fiet

$$\theta e \begin{smallmatrix}+\theta\\+\lambda n\end{smallmatrix} fz^n \begin{smallmatrix}+\theta\\+2\lambda n\end{smallmatrix} gz^{2n} \begin{smallmatrix}+\theta\\+3\lambda n\end{smallmatrix} hz^{3n} + \&c. \text{ in } z^{\theta-1} R^{\lambda-1} = v = BC.$$

Q. E. D.

PROP.